## Claims

What is claimed is:

1. An integrated circuit (IC) cover comprising:
a plate portion;
an attachment portion; and
a spring portion coupled to the plate portion and to the attachment portion.

2. The IC cover of claim 1 wherein the IC cover is unitarily molded of a polymer material.

3. The IC cover of claim 2 wherein the polymer material has a thermal conductivity of at least 10 watts/meter Kelvin.

4. The IC cover of claim 2 further comprising:
a heat sink portion coupled to the plate portion.

5. The IC cover of claim 4 wherein the heat sink portion includes extended surfaces.

6. The IC cover of claim 5 wherein the extended surfaces include fins.

7. The IC cover of claim 1 wherein the attachment portion comprises:
a retainer having a first retainer portion and a second retainer portion, the retainer defining a channel between the first retainer portion and the second retainer portion, the first retainer portion terminating in a first barb and the second retainer portion terminating in a second barb.

8. The IC cover of claim 1 wherein the spring portion has a cross section comprising a V-shaped portion.

9. The IC cover of claim 8 wherein the spring portion has a cross section comprising a zig-zag-shaped portion.

10. The IC cover of claim 1 wherein the spring portion has a cross section comprising a U-shaped portion.

11. The IC cover of claim 1 wherein the spring portion has a cross section comprising an arcuate portion.

12. The IC cover of claim 11 wherein the spring portion has a cross section comprising an S-shaped portion.

13. The IC cover of claim 1 wherein the spring portion has a cross section comprising a molded living hinge portion.

14. The IC cover of claim 1 wherein the spring portion has a cross section comprising a molded cantilever hinge portion.

15. The IC cover of claim 1 wherein the spring portion is disposed at an end of the plate portion.

16. The IC cover of claim 1 wherein the spring portion includes a plurality of individual spring elements, wherein a first one of the plurality of individual spring elements is disposed at a first end of the plate portion and a second one of the plurality of individual spring elements is disposed at a second end of the plate portion.

17. The IC cover of claim 16 wherein the plurality of individual spring elements are disposed around a perimeter of the plate portion.

18. The IC cover of claim 16 wherein at least one of the individual spring elements is maintained in a non-relaxed state.

19. The IC cover of claim 1 wherein the spring portion is disposed around the perimeter of the plate portion.

20. The IC cover of claim 1 wherein the spring portion forms a closed path around the perimeter of the plate portion.

21. The IC cover of claim 1 wherein the spring portion comprises a uniform diaphragm spring.

22. The IC cover of claim 1 further comprising:
a heat sink portion coupled to the plate portion.

23. The IC cover of claim 22 wherein the heat sink portion includes extended surfaces.

24. The IC cover of claim 23 wherein the extended surfaces include fins.

25. The IC cover of claim 1 wherein the plate portion and the spring portion are unitarily formed of a metal material.

26. The IC cover of claim 1 wherein the attachment portion and the spring portion are unitarily molded of a polymer material.

27. The IC cover of claim 1 wherein the plate portion is formed to have an arcuate cross section so as to substantially equalize pressure exerted against a convex surface of the plate portion.

28. An integrated circuit (IC) cover comprising:

an attachment portion adapted to be coupled to a circuit board, wherein at least one die is coupled to the circuit board; and

a plate portion of flexible material coupled to the attachment portion, wherein the plate portion is formed in a pre-loaded shape so as to exert pressure to the at least one die when the attachment portion is coupled to the circuit board.

29. The IC cover of claim 28 wherein the plate portion is formed so as to exert pressure to the at least one die in a direction toward the circuit board.

30. The IC cover of claim 29 further comprising:

a spring portion coupling the attachment portion to the plate portion.

31. An integrated circuit (IC) assembly comprising:

a circuit board;

at least one first die disposed on a first surface of the circuit board; and

a cover including:

a plate portion disposed so as to cover the at least one first die;

an attachment portion attached to the circuit board; and

a spring portion coupled to the plate portion and to the attachment portion.

32. The IC assembly of claim 31 wherein the spring portion exerts pressure between the plate portion and the at least one first die.

33. The IC assembly of claim 32 wherein, when the attachment portion is coupled to the circuit board, the spring portion is in a non-relaxed position.

34. The IC assembly of claim 31 further comprising:

at least one second die disposed on a second surface of the circuit board.

35. The IC assembly of claim 34 further comprising:

a second cover attached to the circuit board, the second cover covering the at least one second die.

36. An integrated circuit (IC) cover comprising:

a plate portion having a plurality of edges;

a plurality of attachment portions; and

a plurality of spring portions coupled to the plate portion and to the plurality of attachment portions, wherein each of the spring portions is oriented along a direction of a corresponding one of the plurality of edges.

37. The IC cover of claim 36 wherein center lines of the plurality of spring portions are oriented so as to be non-radial relative to a centroid of the plate portion.

38. The IC cover of claim 36 wherein each of center lines of the plurality of spring portions are oriented approximately tangentially in relation to a corresponding one of the plurality of edges.

39. The IC cover of claim 36 wherein the plurality of spring portions are oriented in a similar rotational direction with respect to a centroid of the plate portion.

40. The IC cover of claim 36 wherein the plurality of spring portions are configured to cooperatively accommodate displacement of the plate portion from a relaxed position.

41. The IC cover of claim 36 wherein at least one of the plurality of spring portions is maintained in a non-relaxed state when at least one of the plurality of attachment portions is coupled to a circuit board such that the plate portion overlies at least one IC.